

Appl. No. 10/710,761
Reply to Office action of August 09, 2007

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Amendments to the Claims:

The listing of claims will replace all prior versions and listings of claims in the application:

Listing of Claims:

- 5 Claim 1 (currently amended): A scribe line structure, comprising:
a substrate;
a plurality of dielectric layers formed on the surface of the substrate comprising at least a process monitor pattern set in a ~~scribe line region cutting area~~; and

10 a dummy metal structure formed on the surface of the substrate connecting with the process monitor pattern and exposed in the ~~scribe line region cutting area~~.

Claim 2 (original): The scribe line structure of claim 1 wherein the
15 plurality of dielectric layers comprise dielectric layers having a dielectric constant less than or equal to 3.

Claim 3 (original): The scribe line structure of claim 1 wherein the dummy metal structure comprises a plurality of dummy vias.

20 Claim 4 (original): The scribe line structure of claim 1 wherein the dummy metal structure comprises a plurality of dummy metal layers.

Claim 5 (original): The scribe line structure of claim 1 wherein the
25 process monitor pattern is made of metal materials.

Claim 6 (original): The scribe line structure of claim 1 wherein the process monitor pattern comprises test keys, feature dimension measuring elements, or alignment marks.

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Claim 7 (currently amended): The scribe line structure of claim 1 wherein the surface of the substrate further comprises a protective layer covering two sides of the surface of dielectric within the scribe-line-region cutting area.

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Claim 8 (currently amended): A scribe line structure, comprising:

a substrate, the surface of the substrate comprising at least a scribe-line-region cutting area;

10 a plurality of dielectric layers formed on the surface of the substrate comprising at least a process monitor pattern set in the scribe-line-region cutting area; and

a heat irradiative structure formed in the plurality of dielectric layers connecting the plurality of dielectric layers with the surface of the substrate and exposed in the scribe-line-region cutting area.

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Claim 9 (original): The scribe line structure of claim 8 wherein the plurality of dielectric layers comprise dielectric layers having a dielectric constant less than or equal to 3.

20 Claim 10 (original): The scribe line structure of claim 8 wherein the heat irradiative structure is a dummy metal structure.

Claim 11 (original): The scribe line structure of claim 10 wherein the dummy metal structure comprises a plurality of dummy vias.

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Claim 12 (original): The scribe line structure of claim 10 wherein the dummy metal structure comprises a plurality of dummy metal layers.

30 Claim 13 (original): The scribe line structure of claim 8 wherein the heat irradiative structure connects with the process monitor pattern.

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Claim 14 (original): The scribe line structure of claim 8 wherein the process monitor pattern is made of metal materials.

5 Claim 15 (original): The scribe line structure of claim 8 wherein the process monitor pattern comprises test keys, feature dimension measuring elements, or alignment marks.

10 Claim 16 (currently amended): The scribe line structure of claim 8 wherein the surface of the substrate further comprises a protective layer covering two sides of the surface of dielectric within the scribe-line region cutting area.

15 Claim 17 (new) The scribe line structure of claim 1, wherein the process monitor pattern is set under the cutting area.

Claim 18 (new) The scribe line structure of claim 8, wherein the monitor pattern is set under the cutting area.